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10/051,634

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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MURALI BASHYAM, NORMAN W. FINN,
and ABHIJIT PATRA

Appeal 2009-002953
Application 10/051,634
Technology Center

Decided: August 28, 2009

Before, ANTON W. FETTING, JOSEPH A. FISCHETTI, BIBHU R.
MOHANTY *Administrative Patent Judges.*

FISCHETTI, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-124. We have jurisdiction under 35 U.S.C. § 6(b). (2002)

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

Appellants claim a system and method for packet switching and routing protocols, specifically to Transmission Control Protocol (TCP) management techniques. (Specification 1:9-10)

Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A method of managing network communication comprising:
terminating a first transmission control protocol ("TCP") connection at a first network element, wherein said first TCP connection is between said first network element and a second network element, and said first TCP connection is intended to be terminated at a third network element;
initiating a second TCP connection between said first network element and a third network element;
establishing communications between said second and said third network elements via said first network element;

Appeal 2009-002953
Application 10/051,634

determining need for data transfer between said second and said third network elements by monitoring an amount of space available in at least one of a plurality of data buffers; and
transferring said data between said second and said third network elements.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Radko	5,687,392	Nov. 11, 1997
Riddle	5,920,732	Jul. 6, 1999
Smith	6,308,238	Oct. 23, 2001
Cohen	6,389,462	May 14, 2002

The following rejections are before us for review.

The Examiner rejected claims 1-10, 15-41, 46-72, 77-103, and 108-124 under 35 U.S.C. §103(a) over Cohen in view of Smith.

The Examiner rejected claims 11, 13, 42, 44, 73, 75, 104, and 106 under 35 U.S.C. §103(a) over Cohen in view of Smith and further in view of Riddle.

The Examiner rejected claims 12, 14, 43, 45, 74, 76, 105, and 107 under 35 U.S.C. §103(a) over Cohen in view of Smith and further in view of Radko.

ISSUE

Have Appellants shown that the Examiner erred in rejecting claims 1-10, 15-41, 46-72, 77-103, and 108-124 on appeal as being unpatentable under 35 U.S.C. § 103(a) over Cohen in view of Smith on the grounds that a person with ordinary skill in the art would understand that the disclosure by Smith of determining if there are no unallocated buffers in buffer pool, then the method for writing server data to an output buffer ends meets the claim requirement of determining need for data transfer between said second and said third network elements by monitoring an amount of space available in at least one of a plurality of data buffers?

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See*

also KSR, 550 U.S. at 407 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

FINDINGS OF FACT

We find the following facts by a preponderance of the evidence:

1. The Examiner found that Cohen discloses the limitations of claim 1 as follows:

... terminating a first transmission control protocol ("TCP") connection at a first network element, wherein said first TCP connection is between said first network element and a second network element, and said first TCP connection is intended to be terminated at a third network element (column 7, lines 11-35 and column 2, lines 39-65; original connection to origin server is terminated and redirected to proxy); initiating a second TCP connection between said first network element and a third network element (column 2, lines 51-65, column 15-19 and column 7, lines 27-35); establishing communications between said second (client) and said third network elements (origin servers) via said first network element (proxy) (column 7, lines 1-35 and column 2, lines 26-44); and transferring said data between said second and said third network elements (column 1, lines 48-58, column 3, lines 40-46, and column 7, lines 15-35; transfers requested data from origin server to client).

(Answer 3-4)

2. The Examiner however further found that:

Cohen et al fails to determining need for data transfer between said second and said third network elements by monitoring an amount of space available in at least one of a plurality of buffers. However, Smith et al teach determining whether the allocated buffer is full, if not full transferring the next block of data from the server into the buffer (column 13, lines 29-57).

(Answer 4)

3. The Examiner concluded in his finding that:

[I]t would have been obvious to one of the ordinary skill in the art at the time of the applicant's invention to combine the teachings of Cohen et al and Smith et al because doing so would provide an efficient method of handling multiple client processes by allocating buffers for each client process and monitoring each buffer to completely transfer all blocks of the requested data.

(Answer 4)

4. Smith discloses

...in fourth step 1608, client process 204(1) determines that the transferred data block did not include an end-of-file indicator, then in a fifth step 1610 client process 204(1) determines whether the allocated buffer is full by comparing the updated length of valid data 1306 to the known size of buffer 1212. If the data buffer 1212 is not full, then method 1600 returns to second step 1604 to transfer the next block of data. If, however, the allocated data buffer 1212 is full, then in a sixth

step 1612 client process 204(1) searches buffer status information 1210 to determine whether any of buffers 1212(0-Z) are available. If there are no unallocated buffers in buffer pool 1208, then method 1600 ends, but if client process 204(1) finds an unallocated buffer in buffer pool 1208, then in an eighth step 1616 client process 204(1) links the unallocated buffer to the previously allocated input buffer. Client process 204(1) links the buffers by storing a pointer to the status register 1302 of the second allocated buffer in the last position 1214 of the first buffer, updating the length of valid data 1306, and setting the status flag 1308 in the status register 1302 of the new buffer to indicate that the new buffer is allocated.

(Smith, col.13, l. 50 - col.14, l. 7)

5. Smith discloses that the method 1600 includes writing server data to an output buffer. (Smith, col. 13, ll. 31-33)

6. The Specification describes that “[w]hen transmits buffers do not have enough room the data backs-up in the receive buffers resulting in a backup of data at the servers.” (Specification 9:30-31)

ANALYSIS

We affirm the rejections of claims 1-124.

Claims 1-10, 15-41, 46-72, 77-103, and 108-124 Rejected under 35 U.S.C.

§103(a) over Cohen in view of Smith.

Appellants elect claim 1 as representative of the claims in this group, therefore claims 2-10, 15-41, 46-72, 77-103, and 108-124 fall with claim 1. *See, 37 C.F.R. § 41.37(c)(1)(vii)(2004).*

Claim 1 recites in pertinent part, "... determining need for data transfer between said second and said third network elements by monitoring an amount of space available in at least one of a plurality of data buffers."

Appellants argue that "[t]he fullness of the buffer is in no way used to determine the need to transfer data; instead, this factor only controls whether data can be transferred into the buffer. This is highlighted by the fact that the buffer fullness determination (1610) is only made if no end-of-data indicator is found (1608)." (Appeal Br. 8)

We disagree with Appellants because Appellants' arguments "fail from the outset because . . . they are not based on limitations appearing in the claims . . .," and are not commensurate with the broader scope of claim 1 which merely recites the step of *monitoring an amount of space available in at least one of a plurality of data buffers*. *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982). That is, there is in nothing in claim 1 which would prohibit our reading of Smith at the point where no end of data indicator is found, and hence find a buffer fullness determination.

Appellants argue that in Smith "...the determination based upon the fullness of the buffer is made to determine whether data can be transferred into the buffer..." (Appeal Br. 8), and not any need to transfer. We disagree with Appellants because looking to Appellants' Specification we find that the mechanism by which this determination is made occurs as a result of the capacity of the involved buffer(s) to continue to receive data such that it is "[w]hen [the] transmits buffers do not have enough room the data backs-up

in the receive buffers resulting in a backup of data at the servers.” (FF 6)
Thus, in actuality, Appellants’ servers similarly respond to whether the downstream buffer can take more data which is where the need is derived.

Appellants next argue that in Smith “[c]hecking the status of the buffer allows the process to determine whether more data can be transferred to satisfy the already-identified need for data transfer.” (Appeal Br. 9)
Again, the Appellant’s arguments fail because they are not based on limitations appearing in the claims and are not commensurate with the broader scope of claim 1 which merely recites *determining need for data transfer between said second and said third network*, and does not exclude an already identified need. Moreover, Appellants seem to be asserting that in Smith, there is no upstream connection between the written to buffers and the server. This cannot be because Smith explicitly discloses that if there are no unallocated buffers in buffer pool 1208, then method 1600 for writing server data to an output buffer ends. (FF 4, 5)

Appellants also argue that the “...cited portions of Smith simply teach writing data, which appears to already be available locally, to a buffer” (Appeal Br. 9). That argument is not well taken because Smith discloses a writing relationship between a server and written-to buffers (FF 4, 5), and the claims do not distinguish between local and remote servers, except for such a relationship. Moreover, Appellants are attacking the reference individually when the rejection is based on a combination of references and the Examiner relies on Cohen for the teaching of the respective network

elements (FF 1). *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981); *In re Young*, 403 F.2d 754, 757-58 (CCPA 1968).

Finally, Appellants argue that “the combination of Smith and Cohen would result in a system in which Cohen's proxy or origin server implements the buffer-writing technique described in the cited portion of Smith.”

(Appeal Br. 9) Appellants’ arguments were not persuasive as to error using Smith alone, Smith being adopted in combination with Cohen does not alter the reasons set forth above, and thus the combination does not result in error for the same reasons.

The rejection of Claims 11, 13, 42, 44, 73, 75, 104, and 106 under 35 U.S.C. §103(a) over Cohen in view of Smith and further in view of Riddle and Claims 12, 14, 43, 45, 74, 76, 105, and 107 over Cohen in view of Smith and further in view of Radko.

Appellants argue error in the remaining two rejections made under 35 U.S.C. § 103(a) based on the perceived deficiencies of the rejection of claim 1 using the combination of Cohen and Smith. Since the Appellants’ arguments were not persuasive as to error in the rejection of claim 1, the rejections of the remaining claims which are argued only to the extent of error in the rejection of claim 1, likewise cannot be sustained.

CONCLUSIONS OF LAW

We conclude the Appellants have not shown that the Examiner erred in rejecting claims 1-10, 15-41, 46-72, 77-103, and 108-124 under 35 U.S.C. §103(a) over Cohen in view of Smith.

Appeal 2009-002953
Application 10/051,634

We conclude the Appellants have not shown that the Examiner erred in rejecting claims 11, 13, 42, 44, 73, 75, 104, and 106 under 35 U.S.C. §103(a) over Cohen in view of Smith and further in view of Riddle.

We conclude the Appellants have not shown that the Examiner erred in rejecting claims 12, 14, 43, 45, 74, 76, 105, and 107 under 35 U.S.C. §103(a) over Cohen in view of Smith and further in view of Radko.

DECISION

The decision of the Examiner to reject claims 1-124 is AFFRIMED.

MP

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